



FINAL EXAMINATION

MARCH 2024

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| COURSE TITLE | SCIENCE AND TECHNOLOGY IN EARLY CHILDHOOD EDUCATION (DIPLOMA) |
| COURSE CODE | ECLE1213 |
| DATE/DAY | 22 JUNE 2024 / SATURDAY |
| TIME/DURATION | 05:00 PM - 07:00 PM / 02 Hour(s) 00 Minute(s) |

INSTRUCTIONS TO CANDIDATES :

1. Please read the instruction under each section carefully.
2. Candidates are reminded not to bring into examination hall/room any form of written materials or electronic gadget except for stationery that is permitted by the Invigilator.
3. Students who are caught breaching the Examination Rules and Regulation will be charged with an academic dishonesty and if found guilty of the offence, the maximum penalty is expulsion from the University.

(This Question Paper consists of 4 Printed Pages including front page)

*****DO NOT OPEN THE QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO*****

This question paper consists of **THREE (3)** questions. Answer **ALL** questions in the answer booklet provided. **[50 MARKS]**

Terdapat **THREE (3)** soalan di dalam kertas peperiksaan ini. Sila jawab **SEMUA** soalan dalam buku jawapan yang disediakan. **[50 MARKAH]**

QUESTION 1

(30 Marks)

| | |
|-----------------------------------|---|
| Science experiment | Plants |
| Learning objectives | Students will be able to identify the process of growth and development from a seed to a plant |
| Introduction of the lesson | Ask the students to come together as a group. Ask students to identify where plants come from and what plants need to grow. In one hand, show students a live plant, and on the other hand, show students a few seeds. Tell students that today they will be learning how seeds grow and develop into plants with the help of soil, water, sunshine, and carbon dioxide. |

Table 1: Lesson plan

Based on the table 1:

- Provide **FIVE (5)** benefits of this activity for young children. (10 marks)
- List out **FIVE (5)** questions you could ask children to develop their science skills through inquiry-based learning. (5 marks)
- Briefly explain how you could continue this lesson step by step (Steps of the lesson). (5 marks)
- Elaborate **FIVE (5)** ways to integrate this science activity in your classroom. (10 marks)

SOALAN 1

(30 Markah)

| | |
|------------------------------|---|
| Eksperimen Sains | Tumbuh-tumbuhan |
| Objektif Pembelajaran | Pelajar akan dapat mengenal pasti proses pertumbuhan dan perkembangan daripada biji benih kepada tumbuhan |
| Pengenalan pelajaran | Minta murid berkumpul sebagai satu kumpulan. Minta pelajar mengenal pasti dari mana tumbuhan berasal dan tumbuhan apa yang perlu tumbuh. Pada masa yang sama, tunjukkan pelajar tumbuhan yang hidup, dan sebaliknya, tunjukkan pelajar beberapa biji benih. |

| | |
|--|--|
| | Beritahu pelajar bahawa hari ini mereka akan belajar bagaimana benih tumbuh dan berkembang menjadi tumbuhan dengan bantuan tanah, air, cahaya matahari, dan karbon dioksida. |
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Gambarajah 1: Rancangan pembelajaran

Berdasarkan gambar 1:

- a) Berikan **LIMA (5)** faedah aktiviti ini untuk anak-anak kecil. (10 markah)
- b) Senaraikan **LIMA (5)** soalan yang boleh anda tanyakan kepada kanak-kanak untuk mengembangkan kemahiran STEM mereka melalui pembelajaran berasaskan inkuiri. (5 markah)
- c) Terangkan secara ringkas langkah demi langkah bagaimana anda boleh meneruskan pembelajaran ini. (5 markah)
- d) Huraikan **LIMA (5)** cara bagaimana mengintegrasikan aktiviti sains ini dalam bilik darjah anda. (10 markah)

QUESTION 2

(10 Marks)

The 5Es represent five stages of a sequence for teaching and learning: Engage, Explore, Explain, Elaborate, and Evaluate.



Picture 1: Bridge and balancing

Based on picture 1, discuss how to use **FIVE (5)** E's model in this Science activity. (10 marks)

SOALAN 2

(10 Markah)

5E mewakili lima peringkat urutan untuk pengajaran dan pembelajaran: Penglibatan, Meneroka, Menerangkan, Menghuraikan, dan Menilai.



Gambar 1: Jambatan dan pengimbangan

Bincangkan cara menggunakan **LIMA (5)** model 5E dalam aktiviti Sains ini. (10 marks)

QUESTION 3

(10 Marks)

Constructivist theory's acceptance has given rise to a variety of methods for improving kids' scientific learning or comprehension. Teachers must broaden their experience base to build on the experiences that the children have already had, as well as to introduce new experiences, as children derive meaning from experience. Before attempting to provide new experiences to the students, the educator should first ascertain what the students currently know. Children's prior schemas (mental representations) will be connected to the new experience in this way, forming a new schema and a more sophisticated understanding.

Elaborate **FIVE (5)** formal approaches to enhance science learning for children. (10 marks)

SOALAN 3

(10 Markah)

Penerimaan teori konstruktivisme telah menimbulkan pelbagai kaedah untuk meningkatkan pembelajaran saintifik atau kefahaman kanak-kanak. Guru perlu meluaskan asas pengalaman mereka dengan membina pengalaman yang telah dimiliki oleh kanak-kanak, serta memperkenalkan pengalaman baharu, kerana kanak-kanak memperoleh sesuatu daripada pengalaman tersebut. Sebelum memberikan pengalaman baharu kepada pelajar, pendidik hendaklah terlebih dahulu memastikan apa yang diketahui oleh pelajar pada masa sekarang. Skema kanak-kanak yang terdahulu (perwakilan mental) akan dihubungkan dengan pengalaman baharu dan dengan cara ini skema baharu akan terbentuk lalu terbina pemahaman yang lebih canggih.

Huraikan **LIMA (5)** pendekatan formal untuk meningkatkan pembelajaran sains untuk kanak-kanak. (10 markah)

***** END OF QUESTION PAPER *****